

REMARKS/ARGUMENTS

Claims 1-6 and 8-14 are active in the case. Claims 4 and 5 stand withdrawn from consideration. Reconsideration is respectfully requested.

Applicants' representative wishes to thank Examiner Rogers for the helpful and courteous interview of October 5, 2007. As a result of the discussion, it is believed that the issues in the case have been clarified and that the prosecution of the application has been materially advanced.

The present invention relates to a process of removing methacrylic acid from a liquid phase comprising acrylic acid as a main component and methacrylic acid as a secondary component.

Claim Amendments

Claim 1 has been amended in order to recite the salient features that the (co)polymerization method of the present invention occurs under water-in-water emulsion conditions, wherein the polymerization reaction is free radically initiated. Support for these limitations can be found in the first paragraph of the disclosure and in Examples 1 to 3 of the application. Accordingly, the amendments do not introduce new matter into the case. The amendments are not believed to have raised new issues after final, because the term "free radically" is already used in several of the claims, i.e., Claims 3-5, and because the necessary protective colloid component (g), in fact, sets-up water-in-water emulsion conditions as specifically taught on page 16 of the specification. Entry of the amendments is respectfully requested.

Claim Rejection, 35 USC 112, First Paragraph

The amendment made to Claim 8 is fully supported by the specification at page 11, lines 16-17. Accordingly, the rejection of the claim is believed overcome and withdrawal of the rejection is respectfully requested.

Claim Rejection, 35 USC 112, Second Paragraph

As to the matter of the description of the amount of the salt component (f) set forth in Claim 1 is concerned, a classic description is provided which states that the maximum amount of salt (100 % by wt) permissible is the amount of salt that dissolves in the aqueous medium (at the particular temperature prevailing at the time of any given synthesis) to form a saturated solution. The minimum amount of salt employed at 1 % by wt is therefore one-one hundredth the saturation amount of salt in the aqueous reaction medium. Applicants submit that this language is unambiguously clear, and therefore acceptable. Applicants do not have basis in the specification to amend the claim to recite an amount of salt that finds basis in the weight of the entire composition. Withdrawal of the rejection is respectfully requested.

Claim Rejection, 35 USC 102

Claims 1-3, 6 and 7 stand rejected based on 35 USC 10s(a) as anticipated by Maurin et al, U. S. Patent 6,403,642. This ground of rejection is respectfully traversed.

The technology of the Maurin et al patent is within the field of technology of the present invention, since it discloses a composition suitable for the washing of keratin materials. However, the formulation of the patent is comprised of at least one surfactant, at least one cationic polyvinylactam and at least one acrylic terpolymer. It is noted, however, that the polymers of the patent are prepared by conventional methods. Known polymers that comprise vinylcaprolactam are those mentioned in the paragraph of column 3, lines 60-64. Example 1 of the patent discloses a shampoo formulation in which the known polymers

designated as “Luviquat FC 905” and “Structure® Plus” are employed. On the other hand, the composition produced by the presently claimed method is comprised of cationic polymers that are prepared by water-in-water emulsion polymerization (see page 16, lines 10-17 of the specification). In other words, the distinguishing feature of the present invention is the preparation of the cationic polymers by water-in-water emulsion polymerization versus the conventional solution or precipitation polymerization techniques employed to prepare the copolymers of the reference. The examples of the specification are instructive in demonstrating the improved effects of the hair treatment embodiments of the present invention. Examples 1 to 3 describe the preparation of emulsion polymers by the water-in-water emulsion of the monomer mixtures disclosed. On the other hand, Examples 4 and 5 show the solution (aqueous) polymerization of the monomers of Examples 2 and 3 (No protective colloid is present in the polymerization medium.). Table 1 shows the viscosity differences between the aqueous products of Examples 1-3 in contrast to the aqueous solutions of Examples 4 and 5. Table 2 shows the results of the performance tests of shampoos formulated from Examples 1 to 5. Superior reduction in combing force is shown by the shampoos prepared from the emulsions of Examples 1 to 3 in comparison to the shampoos prepared from Examples 4 and 5.

Applicants submit on the basis of the discussion above that the Maurin et al patent does not anticipate the invention as claimed, and withdrawal of the rejection is respectfully requested.

Claim Rejection, 35 USC 103

Claims 1-3, 6 and 8-14 stand rejected based on 35 USC 103(a) as obvious over Schade et al, U. S. Patent 5,962,613. This ground of rejection is respectfully traversed.

In refuting the outstanding ground of rejection applicants maintain their arguments as previously advanced on the record for the patentable distinction of the invention over the disclosure of Schade et al. As argued above in the case of Maurin et al patent, and as argued previously for patentability over Schade et al, the copolymer component of the present invention is prepared by a, free-radically initiated polymerization in a water-in-water emulsion to form a copolymer dispersion. On the other hand, in Schade et al, the process of polymerization of the patent is a solution polymerization that occurs in water and/or a polar organic solvent (col 2). The process distinction gives rise to polymers of materially different properties, as shown by the data in the examples of the present application. Examples 1-3 on pages 35 and 36 of the specification as mentioned above, describe the preparation of polymer dispersions of the invention in aqueous media, each medium containing a salt and a colloidal material. The result in each case is a dispersion (emulsion) having a high content of solids (23 % by weight) (see Table 1 on page 37). Examples 4 and 5, on the other hand, describe free-radically initiated polymerization reactions that occur in aqueous solution and thus are within the scope of the Schade et al patent. Example 5, in particular, describes a polymer solution that has a solids content also of 23 % by weight. Example 4, on the other hand, shows a low solids content of 6.5 % by weight and has a flow structure which is attributable to gel particles, whereas a corresponding dispersion of the present invention does not exhibit such a structure. This is highly advantageous because for a cosmetic formulation, any building-up of structure in the composition is a very undesirable effect and should be avoided. Thus, the obviousness ground of rejection is believed overcome, and withdrawal of the rejection is respectfully requested.

The data in Table 2 on page 41 of the specification should also be considered. Here, Preparation Examples 1-3 (shampoos 6-8) are within the scope of the invention are within the scope of the present invention, while Preparation examples (shampoos 9 and 10) are within

Appln. No. 10/525,232
Reply to the Office Action of June 26, 2007

the scope of the Schade et al patent. As a result of the use of the shampoos of the invention versus the shampoos of the of the two solution polymers, the very much superior reduction in combing force required for shampoos 6-8 of the present invention (both wet and dry conditions) versus the combing force required as a result of use of Shampoos 9 and 10, derived from solution polymers, demonstrates the superior conditioning effect of hair when using the embodiments of the present invention. Accordingly, the present invention as claimed is believed to be patentably distinct over Schade et al.


It is now believed that the application is in proper condition for allowance. Early notice to this effect is earnestly solicited.

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